Robot Resurrection : A New Life for an Old Friend, Robie Sr., Part One

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🔧 **TOOLS:**

- Hot Glue gun & hot glue (1)
- Multimeter or Continuity Tester (1)
- Small Gauge wire (1)
- Solder (1)
- Wire Clippers (1)

⚙ **PARTS:**

- 10mm White LED Radio Shack Part #276-0005 (2)
- 5mm Blue LED Radio Shack Part #210-2850 (1)
- 220 ohm resistors Radio Shack Part #206-2340 (2)
- Robie Sr. (1)

SUMMARY

I'm going to either add functionality or replace existing parts in Robie Sr. with something more modern, faster, or brighter.

This guide originally appeared at http://www.shipwreckedwithyou.com

Step 1 — Robot Resurrection : A New Life for an Old Friend, Robie Sr., Part One


- When I was a kid there were few things I wanted more than a robot. I drew robots. I dreamed about robots. I remember telling my mother that I was going to be a "robot inventor" when I grew up. When I was somewhere between 8 and 11 Santa brought me a real robot, Robie Sr. I loved that robot but I got too curious and took him apart. Back then I wasn't nearly good enough to actually put him back together, so his parts hung around my room for years before I finally got rid of them.

- Fast-forward to 2007. I was thinking about Robie, and how much fun it would be to have him back. A quick trip to Ebay later, I had found one, and he wasn't very expensive either. He came in his original box and everything worked. It was around then that I started thinking about what I could do to make him better… but without breaking the bank. I know! Let's swap out his old flashlight eyes with some LEDs!

- His eyes are these screw-in flashlight light bulbs that will eventually burn out. What's needed here are some super-bright LEDs!

Step 2
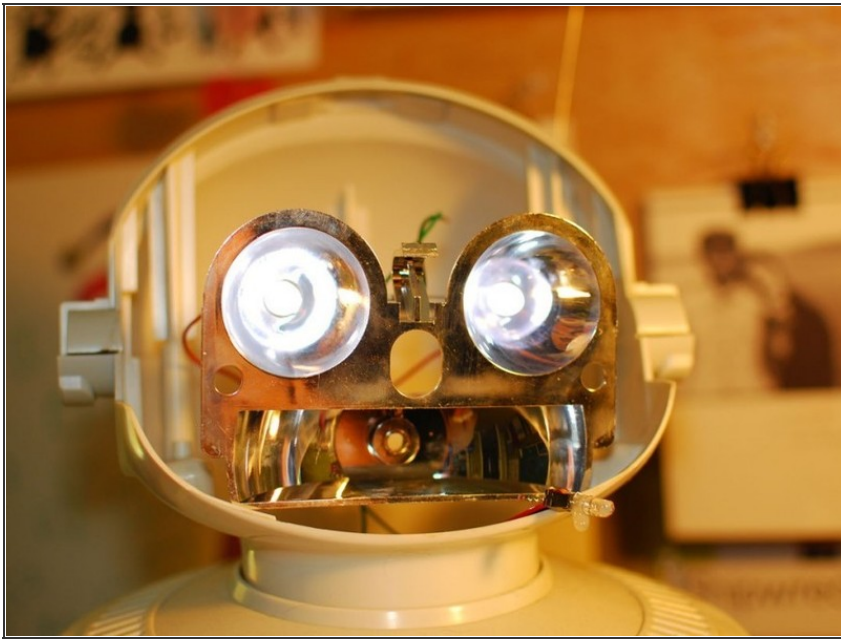
- His head is easy enough to disassemble.

- Starting is simple – just twist his ears off. After that, the plastic dome that covers his face practically falls away. There's a tab on top of his actual faceplate. I used a flathead screwdriver to push down on the tab and remove the plate. There are some plastic lenses to diffuse his eye lights and mouth underneath. Nothing is holding those in besides the faceplate. This next part is a little tricky.

- The rest of the black plastic is held into place by tabs on the side of the inside of his head. If you put a screwdriver into the bottom edge of the black plastic, you can push it in a little (carefully!). Eventually, it'll pop in front of the tabs, and you can pull it out being careful not to break the other side's tabs. Underneath that is a silver reflective piece of plastic that holds the eye lights and the LED for the mouth. It'll be connected by a silver tab that you'll have to push down in the front.

- You're done!

Step 3
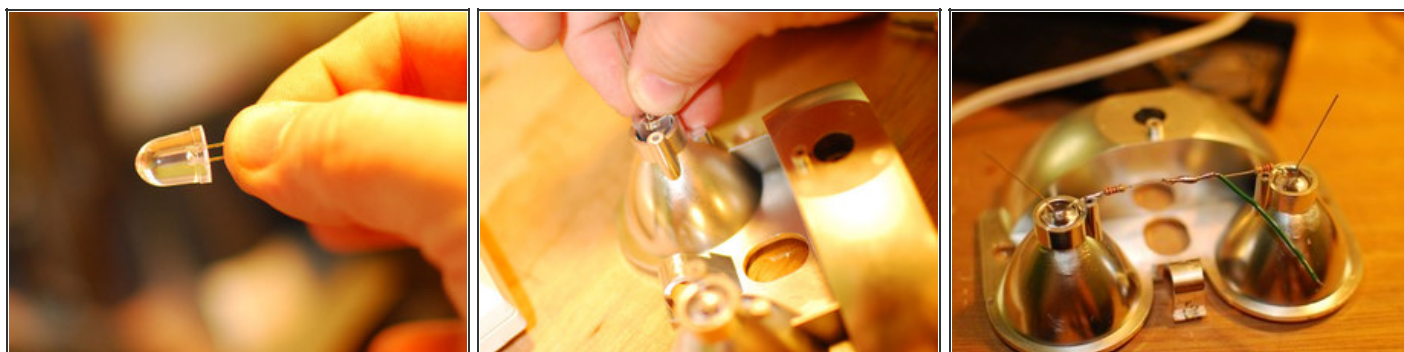
- The eye lights are screwed into the back of his eye sockets with a tiny screw. Unscrew it, and pull the holder out. I still had the bulbs attached, and they easily came out of the hole.

- Clip the wire off.

- Get some large bright LEDs from Radio Shack (Radio Shack Part #276-0005) This is what we'll be putting in instead. Look at the size of them!

- It's a super-snug fit in the reflector hole. Almost snug enough that I probably didn't need any glue. (I ended up using some anyway.)

- I made sure to face the negative leads toward each other. That way, I could just attach one wire to both leads after I soldered them together. The LEDs need current-limiting resistors. These particular LEDs work between 3.5 and 4 volts, and draw 20 milliamps. The supply voltage running to the eye lights is 6 volts. I ended up using a 220-ohm resister for each LED. This seemed to work fine, but if any electrical engineers want to correct me, I'm more than happy to listen.

- With the resistors soldered directly to the leads of the LEDs, I soldered the two resistors together, then soldered the two resistors' leads to the negative supply wire. I soldered a couple of wires to the positive leads and soldered that to the positive supply wire, then tested it out.

Step 4
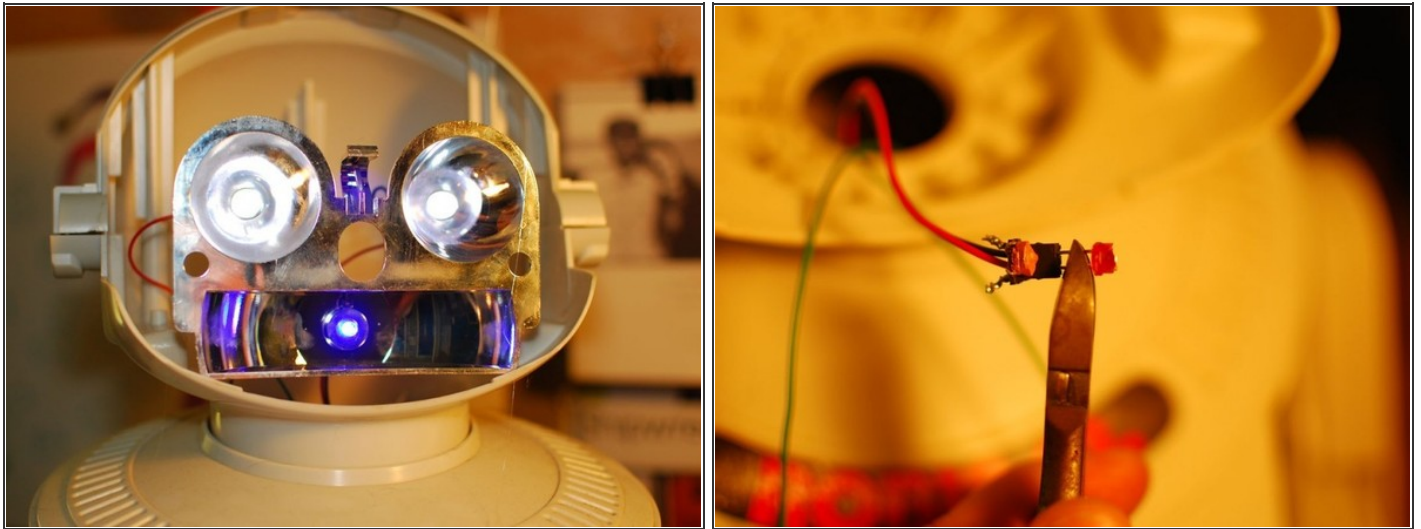
- Looks good!

- Next up is the mouth. My wife Chloe recently got me a "Getting Started with Arduino" kit for my birthday. There were a couple of blue LEDs in there, so I decided to use one of those to replace the boring old red LED. I know that blue LEDs are kinda played out, but whatever - I wanted something new and flashy! Getting the red LED out was kind of a pain. I ended up breaking it in half, and it still didn't come out. After pushing on it with a screwdriver, the glue holding it in eventually gave way, and it popped right out.

- I clipped off the red LED at the leads. I soldered the new blue LED right onto the old leads (after I tested it out). It fit into the hole that the red LED used to be in, then I hot-glued it into place. It works like a charm; just check out the first picture.

Step 5

- I put some hot glue onto the exposed wires (except for the negative leads on the white LEDs) and put it all back together.
- Finished!
- Next time, we'll be doing something for these horrible wheels.
- Here's a video of the mod in action.
- Thanks for reading!

After following this guide, you should have replaced the mouth LED with a blue LED and the flashlight eyes with white LEDs.

Next time, we'll tackle the wheels and motor.

This document was last generated on 2012-11-03 04:11:34 AM.